

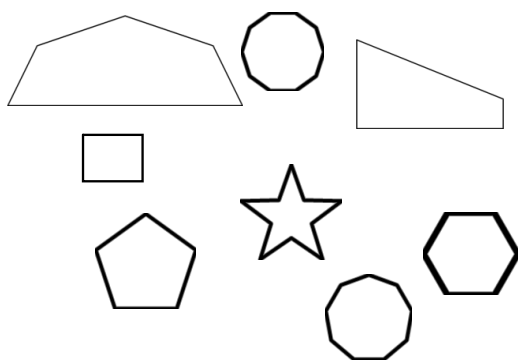
## 1.6 Classify Polygons

polygon--closed plane figure, whose sides are all segments

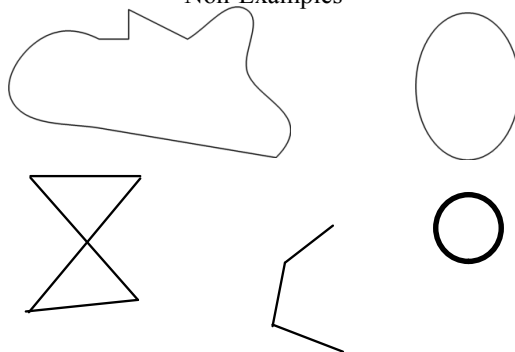
- sides have a common endpoint and are non collinear
- each side intersects exactly 2 other sides

vertex--each endpoint of a side

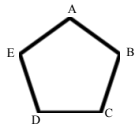
Examples



Non-Examples


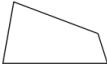




Name by the vertices, in consecutive order



polygon ABCDE  
polygon DCBAE

Types of Polygons

| Shape   | # of sides | Name          |
|---|------------|---------------|
|  | 3          | Triangle      |
|  | 4          | Quadrilateral |
|  | 5          | Pentagon      |
|  | 6          | Hexagon       |



7

Heptagon

11-gon



8

Octagon



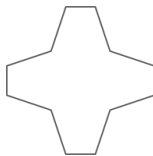
9

Nonagon



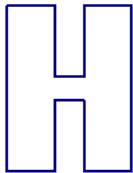
10

Decagon



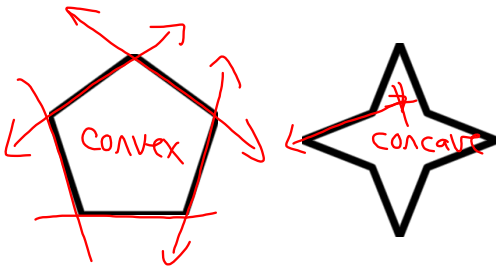
12-gon

Dodecagon

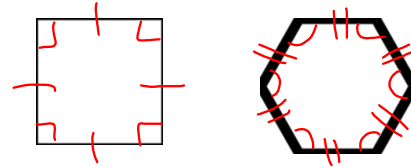


Convex--A polygon is convex, if the line containing a side does not contain points on the interior of the polygon

Concave--Not convex



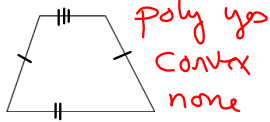
Regular Polygon--convex polygon where all of the sides are congruent, and all of the angles are congruent



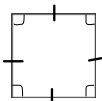
equilateral--all sides are congruent  
equiangular--all angles are congruent

Classify the following figures as:

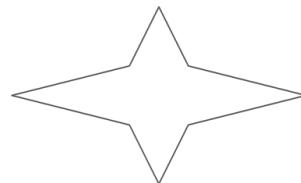
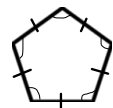
- polygon or not (if polygon, what type)
- convex or concave
- equilateral, equiangular, regular or none



yes  
convex  
regular

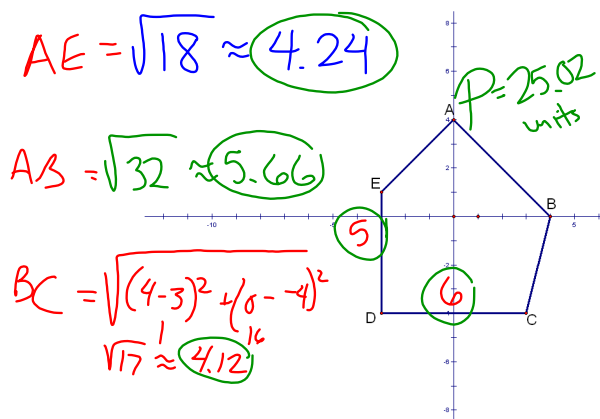


yes  
concave  
none



Find the perimeter of ABCDE

A(0, 4) B(4, 0) C(3, -4) D(-3, -4) E(-3, 1)



If the perimeter of the triangle below is 36 units, find the length of the sides.

